AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-276

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

******SYMPOSIUM WEEK IN CHICAGO*******

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

In this edition:
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* AO-51 Resumes Operation
* ARISS Status - 27 September 2010

SB SAT @ AMSAT $ANS-276.01
Congratulations to the ARISSat-1 Team!

AMSAT News Service Bulletin 276.01
  From AMSAT HQ SILVER SPRING, MD.
October 3, 2010
To All RADIO AMATEURS
BID: $ANS-276.01

Congratulations to the ARISSat-1 Team!

ARISSat-1 will be the presented in detail during the Saturday morning sessions at the AMSAT 2010 Space Symposium and Annual Meeting which will be held on Friday, October 8 through Sunday, October 10.

AMSAT Vice-President of Engineering Tony Montiero, AA2TX and ARISSat Project Manager Gould Smith, WA4SXM along with ARISSat team members will host the Saturday ARRISat-1 sessions including:

+ ARISSat-1 Overview
+ Software Radio Technology
+ BPSK-1000 format for ARISSat-1
+ ARISSatTLM - Software Demodulator and Telemetry Program Calculating
+ Available Power (Examples: ARISSat & Fox) Power System Assembling
+ ARISSat-1
+ ARISSat-1 Vibration Testing

The team plans to have a working ARISSat-1 prototype attending the Symposium.

ARISSat-1 design and operations are discussed in detail in these papers published in the 2010 Symposium Proceedings book:

ARISSat-1 Overview

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   Tony Monteiro AA2TX

ARISSat-1 Power System
   Tony Monteiro AA2TX

Software Radio Technology on ARISSat-1
   Tony Montiero AA2TX

ARISSatTLM - A Software Demodulator and Telemetry Display
             Program for the ARISSat-1 Satellite
   Douglas Quagliana KA2UPW

BPSK-1000 format for ARISSat-1
   Phil Karn KA9Q

An additional feature presentation and paper will introduce you to
AMSAT's next satellite ... AMSAT-FOX Preview by Tony Monteiro, AA2TX.

The AMSAT 2010 Space Symposium and Annual General Meeting will be
held at the Chicago/Elk Grove Holiday Inn which is near O'Hare Airport.

On-line registration for the Symposium continues on-line at the AMSAT
Store site: http://www.amsat-na.com/store/SymposiumReg.php
The registration fee is $45.00 from now through 5 October. Online
registration closes 5 October at Midnight. Registration at the door
will be $50.00.

[ANS thanks the 2010 Symposium Committee for the above information]

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SB SAT @ AMSAT $ANS-276.02
Symposium links for updates

AMSAT News Service Bulletin 276.02
  From AMSAT HQ SILVER SPRING, MD.
October 3, 2010
To All RADIO AMATEURS
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2010 AMSAT Symposium Home Page
http://www.amsat.org/amsat-new/symposium/2010/index.php

Symposium Schedule
http://www.amsat.org/amsat-new/symposium/2010/SymposiumSchedule.php

List of Presentations
http://www.amsat.org/amsat-new/symposium/2010/Presentations.php

Hotel Information
http://www.amsat.org/amsat-new/symposium/2010/Hotel.php

Food and Drink information
http://www.amsat.org/amsat-new/symposium/2010/FoodandDrink.php

Banquet Speaker
http://www.amsat.org/amsat-new/symposium/2010/BanquetSpeaker.php

Board of Directors Agenda
http://www.amsat.org/amsat-new/symposium/2010/BoardofDirectorsAgenda.php

[ANS thanks the 2010 Symposium Committee for the above information]
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SB SAT @ AMSAT $ANS-276.03
AMSAT Symposium

AMSAT News Service Bulletin 276.03
From AMSAT HQ SILVER SPRING, MD.
October 3, 2010
To All RADIO AMATEURS
BID: $ANS-276.03

Of course we all know that this week the AMSAT Symposium will be held in Chicago. You will be able to find all the latest details at the AMSAT Website http://www.AMSAT.org. Information on when certain talks will be presented and full proceedings will be there for the asking. Details for all events, including a tour of the Fermi Lab are there for all to decide on what they would like to see and hear. Take this as an opportunity to get together with your elected officials and discuss with them what is important to you. The full schedule will be updated as they are finalized.

The 2010 Symposium Schedule is posted on the amsat.org web at: http://www.amsat.org/amsat-new/symposium/2010/SymposiumSchedule.php

A few minor tweaks may be necessary over the next 7 days. The final version will be available on-site at the Symposium next week. Authors and presenters will be e-mailed any schedule change affecting the talks.

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SB SAT @ AMSAT $ANS-276.04
ARISS ham radio contact planned with IRSEA Institute, Italy

AMSAT News Service Bulletin 276.04
From AMSAT HQ SILVER SPRING, MD.
October 3, 2010
To All RADIO AMATEURS
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An ARISS (Amateur Radio on the International Space Station) radio contact is planned with IRSEA, a non-profit Institute for Research and Education, located in southern Italy.

IRSEA's mission is to provide a bridge between university research and trade unions and corporations in the fields of education, development and innovative research.

The ARISS contact is scheduled Tuesday 5 October 2010 at 15:28 UTC. The contact will be a telebridge, operated by ARISS ground station K6DUE, located in Goddard Space Flight Center, Maryland. Stations in North America may be able to directly hear the ISS downlink on 145.800 MHz.

The contact will be available on EchoLink AMSAT conference server and IRLP Discovery Reflector 9010. The contact will be webcast on: http://www.cittadellamediterraneadellascienza.it/

ARISS is an international educational outreach program partnering the participating space agencies, NASA, Russian Space Agency, ESA, CNES, JAXA, and CSA, with the AMSAT and IARU organizations from participating countries.

ARISS offers an opportunity for students to experience the excitement

of Amateur Radio by talking directly with crewmembers onboard the International Space Station. Teachers, parents and communities see, first hand, how Amateur Radio and crewmembers on ISS can energize youngsters' interest in science, technology and learning.

[ANS thanks ARISS Chairman Gaston Bertels, ON4WF and the SouthGate ARC news for the above information]

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SB SAT @ AMSAT $ANS-276.05
OSCAR-11 Signals Heard

AMSAT News Service Bulletin 276.05
From AMSAT HQ SILVER SPRING, MD.
October 3, 2010
To All RADIO AMATEURS
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OSCAR-11 Signals Heard

Clive G3CWV reported that OSCAR-11 was heard by JA0CAW on August 29 after being silent since March 30, 2010. Since August 29 it continued to be heard until September 8 and then again September 18-29. Excellent signals have been reported from stations located around the world, and good copy obtained from decoded telemetry frames.

There has been a significant change since the previous period of activity which ended in March 2010. The on-board clock is now very stable. It's gained only three seconds in 30 days. This is comparable with its accuracy when the satellite was fully operational. During its first 21 years it gained approximately one minute per year. However, there is still an accumulated loss of 309 days, which has occurred during eclipses of the last few years!

The other change is that it's now transmitting during eclipses, although signals are weaker at those times. This indicates that there is still some capacity remaining in the battery.

These two changes suggest that some part of the system may have recently failed 'open circuit' thus reducing the overall power drain of the system, and allowing more power to be available during eclipses. There was an unexplained current drain observed when analogue telemetry was last transmitted. This fault might have cleared. Interestingly, the status telemetry shows that the Digital Store & Readout experiment has switched off, since the satellite was previously heard in February.

The satellite appears to be operating for ten days on, followed by ten days off, so it should start transmitting again around October 9, 2010.

Listen for OSCAR-11's VHF AFSK FM ASCII Telemetry beacon on 145.826 MHz.

Reception reports have been received from Bernard FY1LE, Roland DG1EBR, Mike DK3WN, Tetsu JA0CAW, Adam SQ8MFC, MM0DNX, Tony VK3KKP/G8HIM, Martin DC1MAR, John M0BIC, Etienne F1GRR and Carlos KD6GRF. Many thanks to everyone.

Many reports have also been added to the live satellite
status page, on the website set up by David KD5QGR and Bob
WB4APR. This is a very convenient and easy to use facility,
which shows the current status of all the amateur satellites.
Strongly recommended for future reports! The URL is
http://oscar.dcarr.org/index.php

For the benefit of new listeners, here is a short history
of OSCAR-11. It was lauched in 1984, providing telemetry
and other digital services for amateur radio and educational
users. During its many years of operation it survived long
periods of eclipses and continuous full sunlight.

In 2002 the satellite reverted to its default mode of
operation, controlled by the watchdog timer. In 2005 all the
analogue telemetry channels failed. Solar eclipses also
started to cause the watchdog timer cycle to reset, which
switched off the satellite for approximately 15 days.

In 2008 solar eclipses became a permanent feature of every
orbit, causing the satellite to switch off for about 15
days, probably after only one orbit of transmission. Thus
the satellite was not expected to be heard again for any
continuous period until 2019, when there will be some
eclipse free periods. However, the satellite started
transmissions unexpectedly in November 2008. These continued
until March, when it was followed by silence until until the
recent period of activity.

Clive's webpage at www.g3cwv.co.uk contains sound files of
the satellite's beacon, archived news and telemetry, and
information about using soundcard and hardware demodulators
for data capture. There is also software for capturing data,
and decoding ASCII telemetry.

[ANS thanks Clive G3CWV for the above information]

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SB SAT @ AMSAT $ANS-276.06
AO-51 Resumes Operation

AMSAT News Service Bulletin 276.06
  From AMSAT HQ SILVER SPRING, MD.
October 3, 2010
To All RADIO AMATEURS
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AO-51 Resumes Operation

After a software crash on September 26 aboard AO-51 took the satellite
off the air Ground Station Mark Hammond, N8MH reported that as of
September 29, "The reloading of AO-51 is essentially complete; the bird
is in good order."

The AO-51 Command Team configured the satellite for simultaneous opera-
tion of both the S-band and U-band transmitters. The tradeoff is that
U-band will be low in power-around 250 mW or so. Also, please notice
the use of the 145.880 MHz uplink!

September 29
FM Repeater, V/S-U
Uplink: 145.880 MHz FM (no PL tone)
Downlinks: 2401.200 MHz FM *and* 435.300 MHz FM (at low power!)

Mark said, "This is a great time to work on improving the sensitivity of your receiver setups! The 250 mW will challenge some of you for sure. PLEASE be sure to follow the "if you can't hear it, don't try to uplink" basic rule of satellite operation."

If the satellite supports the dual downlink mode OK, controllers may extend the V/S-U mode a few days past the original mode schedule in order to give mode S operators a fair shake at some operations and testing--while at the same time allowing some low power mode V/U operations.

Check the Command Team and Operations Group AO-51 News web page for the latest September 2010 AO-51 Schedule:
http://www.amsat.org/amsat-new/echo/CTNews.php

[ANS thanks Mark Hammond N8MH for the above information]

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SB SAT @ AMSAT $ANS-276.07
ARISS Status - 27 September 2010

AMSAT News Service Bulletin 276.07
  From AMSAT HQ SILVER SPRING, MD.
October 3, 2010
To All RADIO AMATEURS
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1. School Contact

English Estates Elementary School in Fern Park, Florida had a scheduled contact on Thursday, September 30 at 18:00 UTC. Through hands on activities, students will learn about space satellite tracking. The school has an established liaison with the Lake Monroe Amateur Radio Club and an on-campus

ham radio emergency operations station.

2. Astronaut Doug Wheelock Chats with New York Students

On Wednesday, September 22, students from Windsor Central and Owego-Apalachin School Districts in New York participated in an Amateur Radio on the International Space Station (ARISS) contact with astronaut Doug Wheelock, KF5BOC. Wheelock, a graduate of Windsor Central High School, fielded 16 questions put to him by the youth during the ISS pass. The school districts collaborated with the area's Kopernik Observatory and Science Center to put together an education program for the students which included topics on space, radio communication, satellites and rocketry. The final outcome of this project will be the purchase of amateur radio equipment for each school and the formation of amateur radio clubs for the youth.

3. ARISS International Team Meeting Held

The monthly ARISS-International team meeting was held on Tuesday, September 21. Topics of discussion included the recent ARISS elections, Columbus Module equipment and a status on ARISSat-1. Minutes have been posted. See: http://www.rac.ca/ariss/arisstel2010-09-21.htm

4. MAI-75 Experiment to be Activated

The Russian ISS crew members will activate the MAI-75 (Moscow Aviation Institute) experiment on September 27 - 29. The activity is planned for 2 runs per day over Western Russian between approximately 07:00 - 11:00 UTC.

5. Amateur Radio Newsline Covers ARISS Activities

On September 24, the Amateur Radio Newsline Report 1728 included two ARISS related stories. "Ham Radio in Space: ISS ATV Activated Briefly on September 14th" is about the recently held MAI-75 Slow Scan Television session. The second item, "Ham Radio in Space: ARISSAT 1 Near Completion" covers the final preparations of ARISSat-1 prior to shipping to Russia. Both stories may be found at: ftp://ftp.arnewsline.org/quincy/News/news.txt

[ANS thanks Carol, KB3LKI, for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

73,
This week's ANS Editor,
Dee Interdonato, NB2F